

Job No: D117-762-041

Part Name: Replacement Skidtube

Job Qty: 1 ea

Part No: D117-762-041

Job Weight: 0 lbs

Status: Scheduled

Priority: Medium

Created By: Victoria Michaud-Febrille

Description:

Note: SALES ORDER 658

Ship Via:

Due Date: 12/11/17

Job Created: 10/26/17

Type: SOLD

Part No: D117-762-041

Job Qty: 1 ea

Part Name: Replacement Skidtube

Job Weight: 0 lbs

Status: Scheduled

Priority: Medium

Created By: Victoria Michaud-Febrille

Description:

Note: SALES ORDER 658

Ship Via:

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Setup Run	Standard	Workcenter / Supplier	Lead Time	Sign-off
90	Start up Operation	1 Ea	12/8/17	0.00	0.00	0.00	Start Up Skidtubes		
130	Skidtubes	1 pcs	12/8/17	0.00	3.47	0.00	Skidtubes		
140	Skidtubes	1 pcs	12/9/17	0.00	3.47	0.00	Skidtubes		
150	QC	1 pcs	12/9/17	0.00	0.00	0.00	QC10		
160	QC	1 pcs	12/9/17	0.00	0.00	0.00	QC5		
170	HandFinish	1 pcs	12/9/17	0.00	0.97	0.00	HandFinish1		
180	QC	1 pcs	12/9/17	0.00	0.00	0.00	QC7		
190	Skidtubes	1 pcs	12/9/17	0.00	3.47	0.00	Skidtubes		
200	QC	1 pcs	12/9/17	0.00	0.00	0.00	QC10		
210	QC	1 pcs	12/9/17	0.00	0.00	0.00	QC5		
215	HandFinish	1 pcs	12/9/17	0.00	0.97	0.00	HandFinish2		
220	Powdercoat	1 pcs	12/9/17	0.00	0.26	0.00	Powdercoat1		
230	QC	1 pcs	12/9/17	0.00	0.00	0.00	QC3		
250	HandFinish	1 pcs	12/11/17	0.00	0.97	0.00	HandFinish4		
260	QC	1 pcs	12/11/17	0.00	0.00	0.00	QC5		
265	DC	1 pcs	12/11/17	0.00	0.00	0.00	DC		
270	Packaging	1 pcs	12/11/17	0.00	0.00	0.00	Packaging3		
280	QC21-FG	1 Ea	12/11/17	0.00	0.00	0.00	QC21		

Part Op 130 - 1-Cut Aft end using DT185 2-Debur ends 3-Drill Aft Cap holes using DT8678 * OPEN AFT CAP HOLE TO .187"**

Descriptions: * 4-Locate Aft end using DT8973 from aft cap holes & Drill Ground wire hole on top of Tube. 5-Install 3/16 cleco in Ground wire hole, then drill all X-Bolt holes using 3/16" drill. 6-Drill pilot holes for wearplates using DT8900 7-Open wearplate holes to Ø19/64" (0.297") as per Dwg D3582. 8-Drill holes for D5520-1 doubler using #20 drill (note 10). Remove DT10309 A & B, locating from 4th and 5th crossbolt holes from aft using .1875 clecos. Spot drill tube using #20 drill (note 10). Remove DT10309 B. Re-install DT 10309 A drill thru tube and doubler using #20 drill (note 10). cleco as you go. Remove .1875 clecos and open holes in tube and doubler to 0.750". Remove doublers and identify orientation. 9-Debur doubler and double holes in skid tube. 10-Countersink doubler holes in skid tube as per Dwg. detail J and note 12 -Touch up alodine on D5520-1 doublers. 11- open ground wear holes to 0.391" as per section B-B 12-Open Aft Cap holes using .209" drill. 13-Drill pilot holes for section D-D and E-E. Holes must be laid out by hand. Mark out Center line and make sure that 6.65 and 5.906 measurements are respected. Double check before drilling, do not open holes to finish size. 12-Do not open holes of section G-G to finishes size.**

140 - 1-Weid fwd cap D2964 per dwg D3582 and QSI 004 A/R AL ROD Batch: 2-Grind flush

190 - *MASK OFF HOLES OF SECTION F-F (DO NOT C/SINK) 1-Open X-Bolt holes to finish size as per Dwg D3582. sections D-D, E-E, G-G as per Dwg. 2-Counter Sink X-BOLT holes as per Dwg D3582 D-D, E-E and G-G.***Do NOT countersink holes of section F-F. 3-Debur and blow out chips from inside of tube, prep. tube for welding. 4-Install doublers using DT10309 B. Shave rivets as required. 5-Bond web as per Dwg D3582 & QSI 015 A/R 241 Sike Flex**

Batch: M38654 Exp Date: 2018-04-21

6-Swage x-bolt spacer as per dwg and Section F-F QSI002.

Job Sheet 167191-E

D117-762-041

Tel (613) 632-5200

DART AEROSPACE

1270 Aberdeen St
Hawkesbury, ON
Canada

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work C Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K6A 1K7 CANADA TEL: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com Date: _____	DISPOSITION Mfg Date: 11/13/17 Job No: 167191-E	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td style="width: 25%;"> ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab </td> <td style="width: 25%;"> ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite </td> <td style="width: 25%;"> ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier </td> <td style="width: 25%;"> ☐ Engineering ☐ Quality ☐ Other </td> </tr> </table> QTY Effective : _____		☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab	☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite	☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier	☐ Engineering ☐ Quality ☐ Other
☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab	☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite	☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier	☐ Engineering ☐ Quality ☐ Other				
D117-762-041 Start up Operation		Disposition					
		MRB (QSI042) Approval					
		Completed By					
		Lead hand / Supervisor Approval Verification					
QC / QA Coordinator Approval							
FAULT CATEGORY <table style="width: 100%;"> <tr> <td style="width: 33%;"> ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes </td> <td style="width: 33%;"> ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center </td> <td style="width: 33%;"> ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence </td> </tr> </table>				☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes	☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center	☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence	
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OTHER : _____

7-Weld x-bolt spacers as per Dwg D3582 section D-D, E-E and G-G. A/R AL ROD Batch: M136158 8-Grind welds flush

215 - Touch-up alodine as per QSI

220 - START TIME 4:45 OVEN TEMPERATURE: 320° FINISH TIME: 5:15 M138467

250 - 1-Inspect for Foreign objects 2-Install Aft cap as per Dwg D3582, Detail "C" A/R 241 Sika Flex

Batch: M138654 Exp Date: 8/04 3-Install Wearplates as per Dwg D3582, Note: Install Bolt and washer on Ground Wire inserts on top of tube see section D-D of dwg D3582 *****Do not install bolts where indicated on Dwg(Note #6)***** 4- Wing Walk as per Dwg D3582 and QSI 005 4.4

265 - Photocopy bluefile & type labels per PPP D117-762-041 CHG002

270 - Identify and pack for shipping as per PPP D117-762-041 Location :FG081

Wing walk M138711

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D3582-1-BENT <u>5007117</u>	1	3	0	0
140-Skidtubes	D2964 <u>166478</u>	1	9	0	0
190-Skidtubes	CR3212-5-05 <u>501377x62</u>	68	536	0	0
	D2971 <u>F155916</u>	1	24	0	0
	D3584-1 <u>3163674</u>	1	8	0	0
	D3662-1 <u>F163443</u>	3	49	0	0
	D3662-3 <u>F105725</u>	1	55	0	0
	D5304-1 <u>5005228</u>	2	3	0	0
	D5520-1 <u>B1C4764</u>	2	16	0	0
250-HandFinish	ALS4-1032-130 <u>5007279</u>	36	1,675	0	0
	ALS4-428-165 <u>F1M1370540</u>	2	47	0	0
	AN3C4A <u>5019394</u>	28	1,803	0	0
	AN4-4A <u>5019363</u>	2	19	0	0
	D2965 <u>5027954</u>	1	15	0	0
	D3508-11 <u>5007589</u>	1	4	0	0
	D3508-13 <u>5019452</u>	1	10	0	0
	D3508-3 <u>F163732</u>	1	13	0	0
	D3508-9 <u>5021464</u>	1	10	0	0
	D3558-11 <u>5023350</u>	1	10	0	0
	D3558-13 <u>5023294</u>	1	9	0	0
	D3558-3 <u>5009877</u>	1	6	0	0
	D3558-9 <u>5023296</u>	1	15	0	0
	NAS1149C0332R <u>5027570</u>	28	5,020	0	0
	NAS1149D0332 <u>5020606</u>	2	1,512	0	0
	NAS1149D0416J <u>F1M131571</u>	2	2,976	0	0

Part Specifications

Specifications could not be found.

Hand Finishing - 250

* AN3-5A-x2 - 5013737

Plex 10/26/17 11:29 AM dart.Michaud-Febrille.Victoria

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

ITEM	Qty -041	Part Number	Description
	X	D3582-041	SKIDTUBE ASSEMBLY
1	1	D2962-150	EXTRUSION
2	1	D2964	CAP
3	1	D2965	CAP
4	1	D2971	CROSS BOLT SPACER
5	1	D3508-3	WEARPLATE
6	1	D3508-9	WEARPLATE
7	1	D3508-11	WEARPLATE
8	1	D3508-13	WEARPLATE
9	1	D3558-3	GASKET
10	1	D3558-9	GASKET
11	1	D3558-11	GASKET
12	1	D3558-13	GASKET
13	1	D3584-1	WEB
14	3	D3662-1	CROSS BOLT SPACER
15	1	D3662-3	CROSS BOLT SPACER
16	2	D5304-1	CROSS BOLT SPACER
17	2	D5520-1	DOUBLER
18	28	AN3C4A	BOLT
19	2	AN3-5A	BOLT
20	2	AN4-4A	BOLT
21	28	NAS1149C0332R	WASHER (AN960C10L)
22	2	NAS1149D0332J	WASHER (AN960JD10L)
23	2	NAS1149D0416J	WASHER (AN960JD416L)
24	36	AELS-1032-130	INSERT
25	2	ALS7-428-165	INSERT
26	68	CR3212-5-05	CSK RIVET, CHERRY MAX

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB. POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3. ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 18.2 lbs
- 8) WELDING: PER DART QSI 004.
- 9) INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- 10) USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL Ø0.297 HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/291.
- 11) DO NOT INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS IN INDICATED LOCATIONS
- 12) LOCATE QTY (34) HOLES ONTO THE SKIDTUBE PER D5520-1 DOUBLER AND DRILL Ø0.161 THRU SKIDTUBE AND DOUBLER USING DT10309. COUNTERSINK Ø0.286 x 100° (34 PL) PER DOUBLER AND INSTALL EACH D5520-1 DOUBLER USING QTY (34) CR3212-5-05 CSK RIVETS.

RELEASED
2017-08-11
EN 17-547

E	MOVE VIEWS FROM SHT 1 TO SHT 2. ADD ITEMS 17 & 26 AND NOTE 12-13. Ø0.187 HOLE WAS Ø0.75. ADD SHT 3, ADD DETAIL J. SECTION F-F ADD D5520-1. SCALE ON VIEWS WAS 3X.	AJS	17.03.27
D	D5304-1 WAS D2973; REVISE BOM & SECTION F-F & SECTION NOTES (ZN B7-3, A8-3); REF NCR16-6160	RF	17.01.09
C	D3492 PLUG ASSEMBLIES REMOVED. REFORMAT NOTES SHT 1	AP	15.11.02
B	29.86 WAS 29.87 (ZN C2-1), INCORPORATED DEO D3582-A-1 (ZN D5-1), FORMAT TO CURRENT STD	RF	15.02.20
A	NEW ISSUE	PH	07.06.06
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC EUGENE, OR	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D3582	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		BK 117 SKIDTUBE ASSEMBLY	NTS
DATE	17.03.27	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

DQA: _____ Date: _____

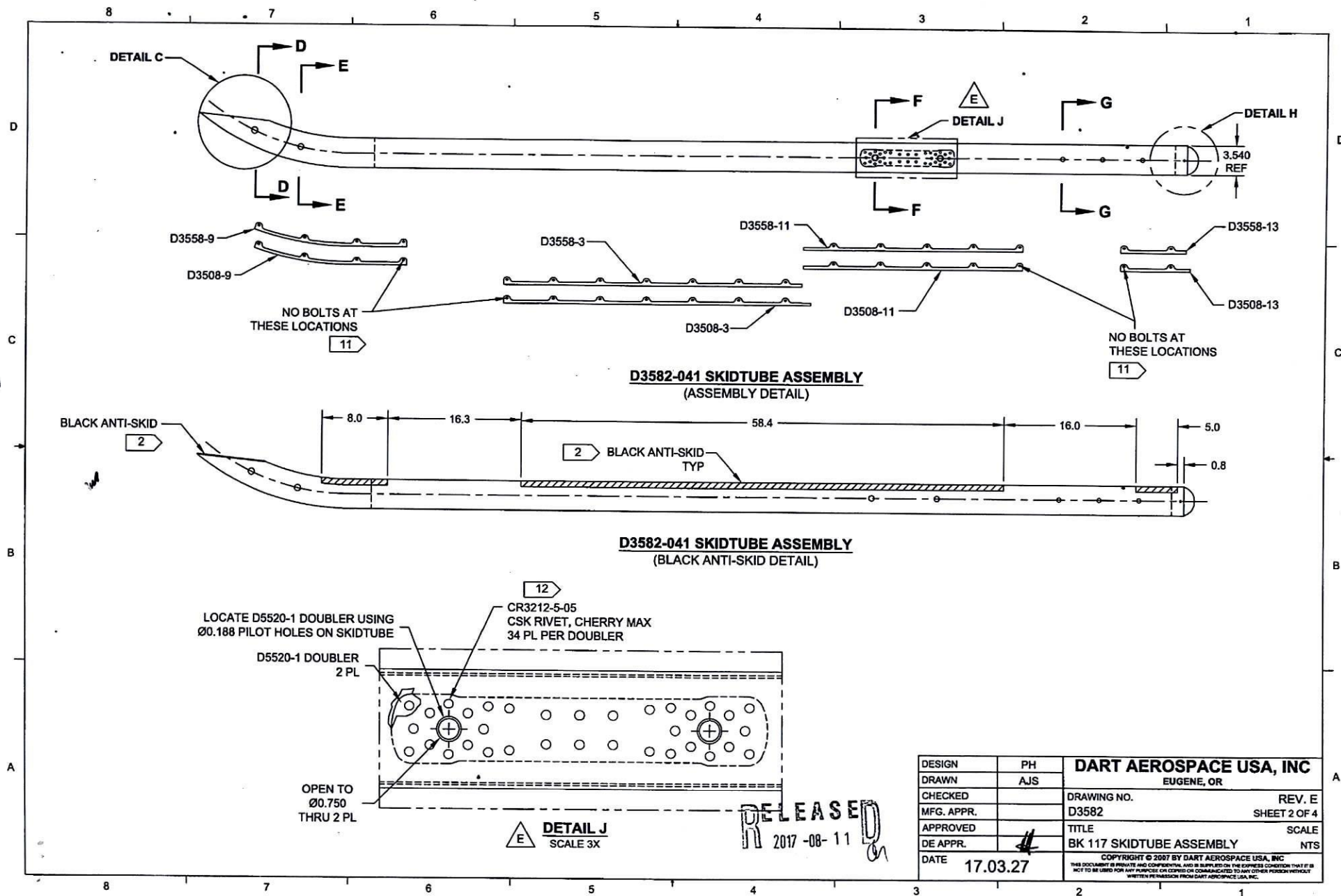


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	EUGENE, OR	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D3582	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.	4	BK 117 SKIDTUBE ASSEMBLY	NTS
DATE	17.03.27	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

DQA: _____ Date: _____



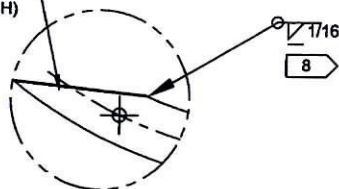
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

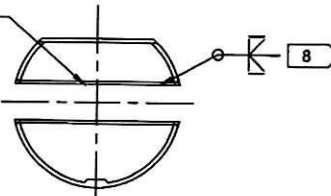
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

D2964 CAP
(GRIND FLUSH)



DETAIL C
SCALE 4X

D2971 SPACER



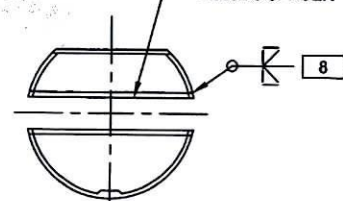
SECTION D-D
SCALE 4X

SECTION D-D NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D2971 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.750 DRILL TO REMOVE SPILL OVER

D3662-3 SPACER



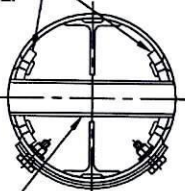
SECTION E-E
SCALE 4X

SECTION E-E NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-3 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.672 DRILL TO REMOVE SPILL OVER

D5520-1 DOUBLER
REF



SECTION F-F
SCALE 4X
2 PL

SECTION F-F NOTES

AFTER BENDING AND DRILLING ASSY
PERFORM THE FOLLOWING:

1. INSERT D5304-1 SPACER
2. SWAGE TO Ø0.565 +0.005/-0.000 X 1.0
DEEP PER QSI 002
3. OPEN THRU HOLE TO Ø0.625
4. GRIND FLUSH

D3584-1 WEB
REF

D3662-1 SPACER
3 PL

10 AFTER FINISH, INSTALL
AELS-1032-130
INSERT 36 PL

AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
28 PL

AFTER FINISH, INSTALL
ALS7-428-165 INSERT (1)
AN4-4A BOLT (1)
NAS1149D0416J WASHER (1)
2 PL

SECTION G-G
SCALE 4X

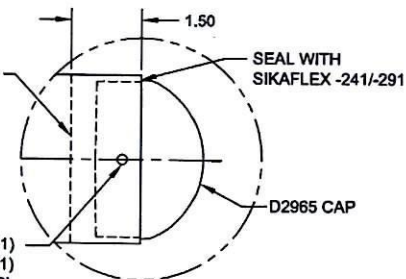
SECTION G-G NOTES

AFTER BENDING AND DRILLING ASSEMBLY
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-1 SPACER (3 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.515 DRILL TO REMOVE SPILL OVER

D3584-1 WEB
REF

AN3-5A BOLT (1)
NAS1149D0332J WASHER (1)
2 PL



DETAIL H
SCALE 4X

DESIGN	PH	DART AEROSPACE USA, INC EUGENE, OR	
DRAWN	AJS		
CHECKED		DRAWING NO. D3582	REV. E SHEET 3 OF 4
MFG. APPR.		TITLE BK 117 SKIDTUBE ASSEMBLY	SCALE NTS
APPROVED		COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	
DE APPR.			
DATE	17.03.27		

RELEASED
2017-08-11

DQA: _____ Date: _____

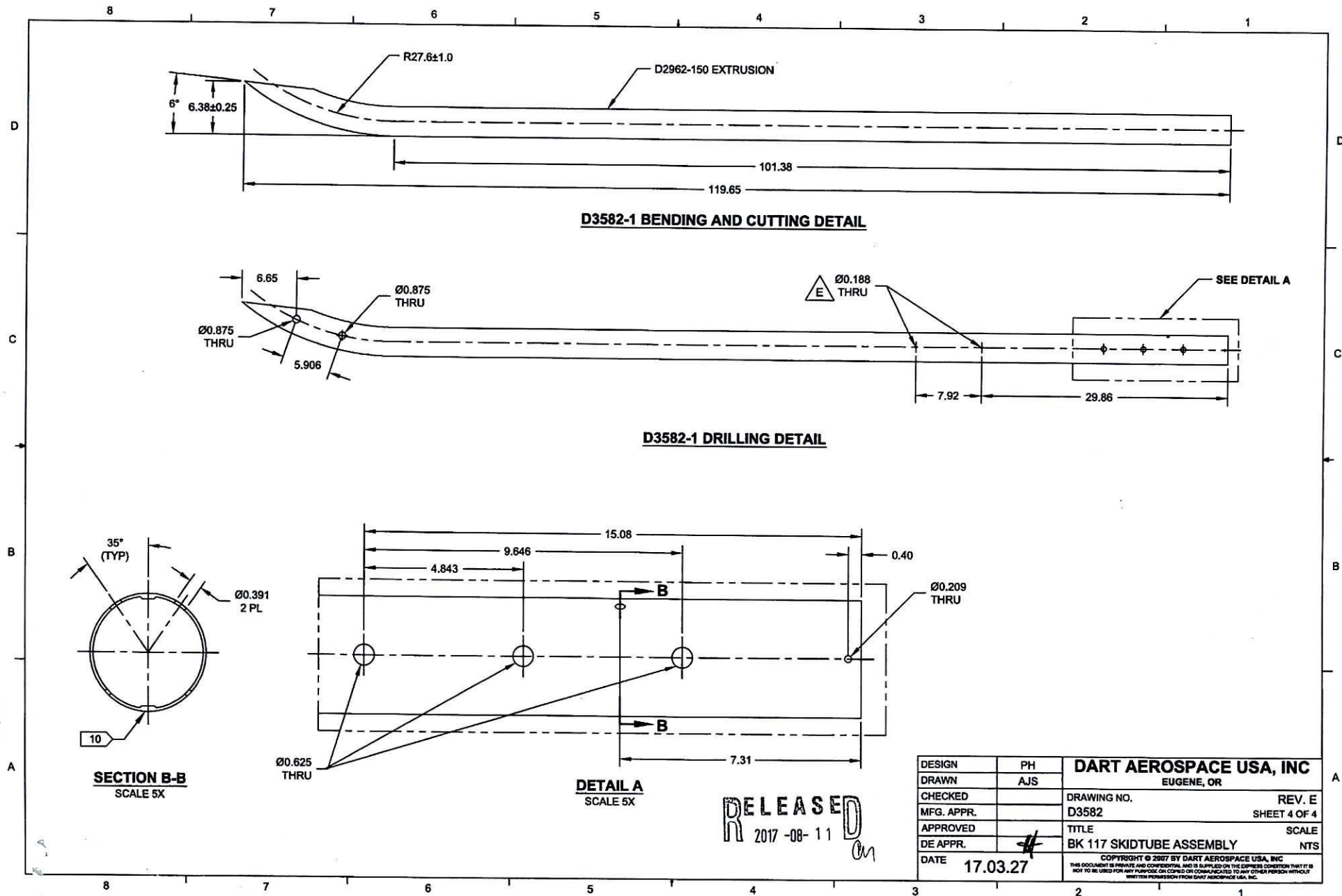


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐				
Date :	Step #:	QTY Effective :			MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			Completed By	
					Lead hand / Supervisor Approval Verification	
					QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY				
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : _____						



DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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